

## FOREWORD

The development of today's civilisation is accompanied by ever-increasing awareness of the global nature of the environmental crisis, of its all-embracing scope, and of the consequent essential need for some adequate response to be forthcoming. A unique outcome of the confrontation between this awareness and this need has been the concept of sustainable development, which offers a creative linkage of many factors relating to three components of our civilisation, i.e. nature, society and the economy.

Research work on such subject matter has in fact been undertaken for several decades now, and by representatives of many different fields of scientific inquiry. The results of all this have been summed up at many a conference and symposium, and a fine example of this might be the interdisciplinary conference first mentioned in *Papers on Global Change PAS* No. 24 of 2017, and referring to sustainable development theory and praxis 30 years on from the *Bruntland Report*. This was organised by Cardinal Stefan Wyszyński University in Warsaw on 20.03.2017, and within its framework certain papers of particular note have been transformed into articles, of which 7 appeared in the previous volume (24/2017), along with the so-called "Warsaw Appeal"; while a further 4 are offered in this volume.

The authors of these 4 articles present in this volume (25/2018) certainly point unambiguously to complementary components of sustainable development. Thus, for example, the **natural** component has been taken account of in work here by **Zbigniew M. Karaczun** – on *The Evolution of the Sustainable Development Concept in Poland as Exemplified by Climate Policy*, as well as **Małgorzata Grodzińska-Jurczak** – on *Does Participation Make Sense? Effective Methods of Including People in Biodiversity Conservation*. The female author referred to, along with **Jacek Kwiatkowski** in his *New Generation, new Needs – the Resilient City versus the Sustainable City* address the **social** component. Finally, the third, **economic** component is considered in the work by **Andrzej Kiepas** concerning *Sustainable Development with Industry 4.0*.

Such a series of no fewer than 11 articles offers a cohesive semantic picture of both the theory and practice of sustainable development, with the effect being to designate directions of change that might safeguard the wellbeing of the whole community of life on Earth.

Offering a further augmentation is the second part of Vol. 25/2018, wherein authors **Konrad Prandeki** and **Artur Michałowski** devote their article to *The risk of catastrophes for civilisational development of environmental origin*, in this way raising the issue of a catastrophic vision of development by offering a synthetic, analytical conceptualisation of environmental and economic threats of global reach. The analysis attempted here is one in which the considerations are of a universal nature, enforcing the treatment of humankind as one collective entity, notwithstanding the presence on Earth of various different civilisations. Included among the civilisational threats here are 5 groups of resources (fuels, rare earths, water, soil and biodiversity) as considered in relation to four criteria, relating to harmfulness, rate of spread, range and time of occurrence; as well as a general indicator of risk. Renewable resources and climate change as linked with geophysical processes are seen to be of key significance when it comes to the risk of a global civilisational catastrophe of an environmental nature being unleashed.

It is thoughts on different directions to research into the future of science that **Leszek Starkel** offers, drawing on examples from Polish geography in his *The present state of Polish Geography and the tasks awaiting it*. In terms of its subject matter, this in fact links up with that author's report on the IGU regional conference on *Practical Geography and 21<sup>st</sup>-Century Challenges* (convened in Moscow, Russia, 4<sup>th</sup>–6<sup>th</sup> June, 2018). The latter conference sought to sum up the directions world geography is heading in, in a practical context and in both the immediate and further future.

A further series of articles of a regional nature provide examples of sustainable development in Latin America, Africa and Asia. This subject matter is first addressed by authors from Peru and Poland, i.e. **Hildegardo Córdova Aguilar**, **Mirosława Czerny** and **Andrzej Czerny**, in their *Sustainable development of a rural area in the face of pressure from large tour operators? The example of Peru's Colca Canyon*. This paper offers an interesting presentation – with photographs – of geographical, geological, historical and economic features relating to conditions for agritourism, and also pointing to changes of direction that regional development is making and made in the past.

The last of the articles submitted assesses phenomena in the field of biodiversity conservation is by the team of Jagiellonian University authors: **Małgorzata Grodzińska-Jurczak**, **Hanna Kobierska**, **Joanna Tusznió** and is entitled *Biodiversity conservation and monitoring – engagement and motivations of citizen scientists*. The issue here is an analysis of the role of NGOs and volunteer work, particularly of citizen scientists, within the Polish nature conservation sector. This study shows that, although 'citizen science' in the field of nature conservation does not have a long tradition in Poland and other Central Eastern European countries, its' activity and involvement becomes significant in implementation of biodiversity policy. Biodiversity conservation cannot operate without the contribution of NGOs to the national nature monitoring scheme and their collaboration with governmental and scientific institutions as well as the citizen scientists input to NGOs' monitoring activities.

The remaining two notes present here are concerned with the threats posed by flooding. There is a report on the 3<sup>rd</sup> *Disaster Risk Reduction Conference*, (Warsaw, 12<sup>th</sup>–13<sup>th</sup> October 2017) by authors **Artur Magnuszewski** and **Dorota Rucińska**, as well as concise information on an article from the Belgian authors J. De Niel, G. Demarée and P. Willems entitled *Weather Typing-Based Flood Frequency Analysis Verified for Exceptional Historical Events of Past 500 Years Along the Meuse River*. This review is by **Małgorzata Gutry-Korycka**, and it details statistical relationships between river floods and types of weather arising out of the dynamic situation of the atmosphere.

The authors of this introductory text conclude by expressing their belief and hope that Vol. 25/2018, as presented here, offers content that will meet with the interest of many readers, and even serve to inspire more in-depth research that also touches upon sustainable-development issues as it seeks to point to further trends where global change is concerned.

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